

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2002-CE-31-AD; Amendment 39-12973; AD 2002-24-08]

RIN 2120-AA64

Airworthiness Directives; Cirrus Design Corporation Models SR20 and SR22 Airplanes

AGENCY: Federal Aviation Administration, DOT

ACTION: Final rule.

SUMMARY: This amendment supersedes Airworthiness Directive (AD) 2002-05-05, which currently applies to certain Cirrus Design Corporation (Cirrus) Models SR20 and SR22 airplanes. AD 2002-05-05 currently requires you to incorporate temporary operating limitations into the Limitation Section of the airplane flight manual (AFM) for certain affected airplanes and install a cable clamp external to the cone adapter on the Cirrus Airplane Parachute System (CAPS) activation cable for all affected airplanes. AD 2002-05-05 resulted from a report from the manufacturer that certain CAPS may not activate in an emergency situation. This AD is the result of the manufacturer redesigning the CAPS activation system. This AD requires you to modify the CAPS activation system. The actions specified by this AD are intended to prevent failure of the CAPS activation system in an emergency situation. Failure of this system could result in occupant injury and/or loss of life and loss of aircraft.

DATES: This AD becomes effective on January 24, 2003.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of January 24, 2003.

ADDRESSES: You may get the service information referenced in this AD from Cirrus Design Corporation, 4515 Taylor Circle, Duluth, MN 55811; telephone: (218) 727-2737. You may view this information at the Federal Aviation Administration (FAA), Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 2002-CE-31-AD, 901 Locust, Room 506, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Gregory J. Michalik, Aerospace Engineer, FAA, Chicago ACO, 2300 East Devon Avenue, Des Plaines, IL 60018; telephone: (847) 294-7135; facsimile: (847) 294-7834.

SUPPLEMENTARY INFORMATION:

Discussion

Has FAA taken any action to this point? The FAA received a report from the type certificate holder that a condition exists that could cause the Cirrus Airplane Parachute System (CAPS) installed on certain Cirrus Design Corporation (Cirrus) Model SR20 and SR22 airplanes not to activate in the event of an emergency. Ballistic Recovery Systems (BRS), the supplier of the CAPS, discovered the condition during a supplemental type certificate (STC) certification test of the same unit on another airplane.

Investigation revealed that the rocket cone could allow for variance in the internal diameter at the threaded end of the rocket cone. This variance could result in the retaining nut internal to the cone adapter not being fully secured on the affected parachutes. When the igniter end of the cable housing is unsecured, the cable will not pull the igniter pin free to release the parachute.

Section 23.221 of the Federal Aviation Regulations (14 CFR 23.221) requires that single-engine, normal category airplanes demonstrate compliance with either the one-turn spin recovery or the spin-resistant requirements. The airplane, for spin recovery compliance, must recover from a one-turn spin or a three-second spin, whichever takes longer, in not more than one additional turn after the controls have been applied for recovery. The Cirrus SR20/SR22 are not certificated to meet the spin recovery requirements or spin resistant requirements of 14 CFR 23.221. Instead, Cirrus installed Cirrus Airplane Parachute System (CAPS) that was FAA-approved as part of the SR20/SR22 type design.

Possible failure of the CAPS activation system in an emergency situation caused us to issue AD 2002-05-05, Amendment 39-12673 (67 FR 11220, March 13, 2002). AD 2002-05-05 requires the following:

- Incorporating temporary operating limitations into the Limitation Section of the airplane flight manual (AFM) for the airplanes with a CAPS that incorporates the process change; and
- Installing a cable clamp external to the cone adapter on the CAPS activation cable (as terminating action for the AFM requirements).

What has happened since AD 2002-05-05 to initiate this action? After further testing, Cirrus has made design changes to the whole CAPS activation system that now eliminate possible failure of the CAP activation system. Incorporation of the design changes eliminates the need for the actions of AD 2002-05-05.

Has FAA taken any action to this point? We issued a proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to certain Cirrus Models SR20 and SR22 airplanes. This proposal was published in the Federal Register as a notice of proposed rulemaking (NPRM) on August 29, 2002 (67 FR 55357). The NPRM proposed to supersede AD 2002-05-05 with a new AD that would require you to replace the CAPS handle access cover, replace the CAPS activation handle bracket, and replace the CAPS activation cable.

Was the public invited to comment? The FAA encouraged interested persons to participate in the making of this amendment. We did not receive any comments on the proposed rule or on our determination of the cost to the public.

FAA's Determination

What is FAA's final determination on this issue? After careful review of all available information related to the subject presented above, we have determined that air safety and the public interest require the adoption of the rule as proposed except for minor editorial corrections. We have determined that these minor corrections:

- Provide the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

Cost Impact

How many airplanes does this AD impact? We estimate that this AD affects 391 airplanes in the U.S. registry.

What is the cost impact of this AD on owners/operators of the affected airplanes? We estimate the following costs to accomplish the replacement of the CAPS handle access cover:

Labor cost	Parts cost	Total cost per airplane	Total cost on U.S. operators
1 workhour x \$60 per hour = \$60	\$19	\$79	\$79 x 391 = \$30,889.

We estimate the following costs to accomplish the replacement of the CAPS activation handle bracket:

Labor cost	Parts cost	Total cost per airplane	Total cost on U.S. operators
2 workhours x \$60 per hour = \$120	\$7	\$127	\$127 x 391 = \$49,657.

We estimate the following costs to accomplish the replacement of the CAPS activation cable:

Labor cost	Parts cost	Total cost per airplane	Total cost on U.S. operators
3 workhours x \$60 per hour = \$180	\$320	\$500	\$500 x 391 = \$195,500.

We summarize the following estimated costs to accomplish the modification to the CAPS activation system:

Total labor cost	Total parts cost	Total cost per airplane	Total cost on U.S. operators
6 workhours x \$60 per hour = \$360	\$346	\$706	\$706 x 391 = \$276,046.

The manufacturer will provide warranty credit for labor and parts to the extent noted under WARRANTY INFORMATION in each previously-referenced service bulletin.

Compliance Time of This AD

What is the compliance time of this AD? The compliance time of this AD is "within 90 days after the effective date of this AD, unless already accomplished."

Why is the compliance time presented in calendar time instead of hours time-in-service (TIS)? Failure of the CAPS is only unsafe during airplane operation; this unsafe condition is not a result of the number of times the airplane is operated. The chance of this situation occurring is the same for an

airplane with 10 hours time-in-service (TIS) as it is for an airplane with 500 hours TIS. For this reason, the FAA has determined that a compliance based on calendar time will be utilized in this AD in order to assure that the unsafe condition is addressed on all airplanes in a reasonable time period.

Regulatory Impact

Does this AD impact various entities? The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

Does this AD involve a significant rule or regulatory action? For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the final evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. FAA amends § 39.13 by removing Airworthiness Directive (AD) 2002-05-05, Amendment 39-12673 (67 FR March 13, 2002), and by adding a new AD to read as follows:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.airweb.faa.gov/rgl"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2002-24-08 Cirrus Design Corporation: Amendment 39-12973; Docket No. 2002-CE-31-AD.

(a) *What airplanes are affected by this AD?* This AD affects the following airplane models and serial numbers that are certificated in any category:

Model	Serial numbers
SR20	1005 through 1195.
SR22	0002 through 0209.

(b) *Who must comply with this AD?* Anyone who wishes to operate any of the airplanes identified in paragraph (a) of this AD must comply with this AD.

(c) *What problem does this AD address?* The actions specified by this AD are intended to prevent failure of the Cirrus Airplane Parachute System (CAPS) activation system in an emergency situation. Failure of this system could result in occupant injury and/or loss of life and loss of aircraft.

(d) *What actions must I accomplish to address this problem?* To address this problem, you must accomplish the following:

Actions	Compliance	Procedures
Modify the Cirrus Airplane Parachute System (CAPS) by replacing the CAPS handle access cover, the CAPS activation handle bracket, and the CAPS activation cable with parts of improved design.	Within the next 90 days after January 24, 2003 (the effective date of this AD), unless already accomplished.	In accordance with the service information specified in paragraph (e) of this AD.

(e) *What service information should I use to accomplish the actions required in paragraph (d) of this AD?* Use the service bulletins specified below, as applicable:

- (1) Cirrus Service Bulletin SB 20-95-03, Issued: June 10, 2002;
- (2) Cirrus Service Bulletin SB 20-95-04, Issued: July 10, 2002;
- (3) Cirrus Service Bulletin SB 20-95-05, Issued: July 10, 2002; or Cirrus Service Bulletin SB 20-95-05, Rev 1: dated August 14, 2002;
- (4) Cirrus Service Bulletin SB 22-95-03, Issued: June 10, 2002;
- (5) Cirrus Service Bulletin SB 22-95-04, Issued: July 10, 2002; and
- (6) Cirrus Service Bulletin SB 22-95-05, Issued: July 10, 2002; or Cirrus Service Bulletin SB 22-95-05, Rev 1: dated August 14, 2002.

Note 1: Cirrus Service Bulletin SB 20-95-03, Issued: June 10, 2002, on page 2 of 2, includes an incorrect reference to SB 22-95-03 in step 4. The correct reference should be to SB 20-95-03.

Note 2: Cirrus Service Bulletin SB 20-95-05, Issued: July 10, 2002, on page 9 of 16, includes an incorrect reference to SB 22-95-05 in step 15. The correct reference should be to SB 20-95-05.

(f) *Can I comply with this AD in any other way?*

(1) You may use an alternative method of compliance or adjust the compliance time if:

(i) Your alternative method of compliance provides an equivalent level of safety; and

(ii) The Manager, Chicago Aircraft Certification Office (ACO), approves your alternative.

Submit your request through an FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Chicago ACO.

(2) Alternative methods of compliance approved in accordance with AD 2002-05-05, which is superseded by this AD, are not approved as alternative methods of compliance with this AD.

Note 3: This AD applies to each airplane identified in paragraph (a) of this AD, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (f) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if you have not eliminated the unsafe condition, specific actions you propose to address it.

(g) *Where can I get information about any already-approved alternative methods of compliance?*

Contact Gregory J. Michalik, Aerospace Engineer, FAA, Chicago ACO, 2300 East Devon Avenue, Des Plaines, IL 60018; telephone: (847) 294-7135; facsimile: (847) 294-7834.

(h) *What if I need to fly the airplane to another location to comply with this AD?* The FAA can issue a special flight permit under sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate your airplane to a location where you can accomplish the requirements of this AD.

(i) *Are any service bulletins incorporated into this AD by reference?* Actions required by this AD must be done in accordance with Cirrus Service Bulletin SB 20-95-03, Issued: June 10, 2002; Cirrus Service Bulletin SB 20-95-04, Issued: July 10, 2002; Cirrus Service Bulletin SB 20-95-05, Issued: July 10, 2002; Cirrus Service Bulletin SB 20-95-05, Rev 1: dated August 14, 2002; Cirrus Service Bulletin SB 22-95-03, Issued: June 10, 2002; Cirrus Service Bulletin SB 22-95-04, Issued: July 10, 2002; Cirrus Service Bulletin SB 22-95-05, Issued: July 10, 2002; and Cirrus Service Bulletin SB 22-95-05, Rev 1: dated August 14, 2002. The Director of the Federal Register approved this incorporation by reference under 5 U.S.C. 552(a) and 1 CFR part 51. You may get copies from Cirrus Design Corporation, 4515 Taylor Circle, Duluth, MN 55811; telephone: (218) 727-2737. You may view copies at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri, or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.

(j) *Does this AD action affect any existing AD actions?* This amendment supersedes AD 2002-05-05, Amendment 39-12673.

(k) *When does this amendment become effective?* This amendment becomes effective on January 24, 2003.

Issued in Kansas City, Missouri, on November 26, 2002.
Michael Gallagher,
Manager, Small Airplane Directorate, Aircraft Certification Service.
[FR Doc. 02-30685 Filed 12-9-02; 8:45 am]
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